

# H.264 Network Camera

## User's Manual

# IMPORTANT SAFETY INSTRUCTIONS

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with a dry cloth.
- 7) Do not block any of the ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus that produce heat.
- 9) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 10) Only use the attachments/accessories specified by the manufacturer.
- 11) Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



- 12) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 13) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

## CALIFORNIA USA ONLY

This Perchlorate warning applies only to primary CR (Manganese Dioxide) Lithium coin cells in the product sold or distributed ONLY in California USA.  
"Perchlorate Material - special handling may apply, See [www.dtsc.ca.gov/hazardouswaste/perchlorate](http://www.dtsc.ca.gov/hazardouswaste/perchlorate)."

### Caution

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type.

These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock does not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

**In USA and Canada, Use Class 2 Power Supply Only**

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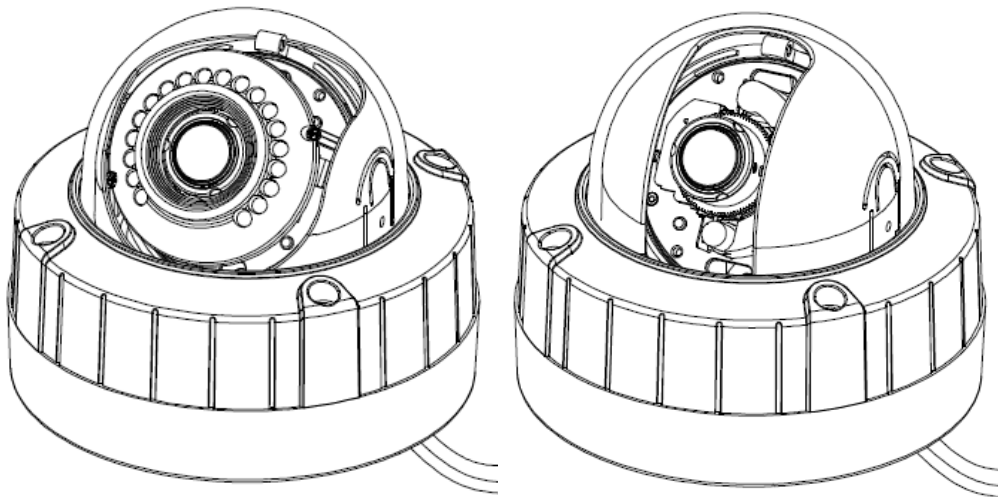
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# 1. Product Features

The IP VANDAL DOME CAMERA is a high performance H.264 network camera, designed for demanding security installations. It delivers crisp, clear images, disclosing every detail, thanks to its top quality 3.0 Megapixel progressive CMOS sensor and advanced image processing.

Supported by the industry's largest base of video management software, the IP VANDAL DOME CAMERA provides the perfect solution for securing bank offices, airports and other facilities, and for traffic surveillance, over IP based networks.

The optimal Power over Ethernet (IEEE 802.3af) support power to the camera to be delivered via the network, eliminating the need for a power outlet and reducing installation costs. Steady power could be guaranteed with a central Uninterruptible Power Supply (UPS).



The IP VANDAL DOME CAMERA offers a comprehensive set of network security and management features.

This includes support for port based network control (IEEE802.1X), which allows the camera to be connected to a network secured with this control, and HTTPS encryption, which provides a secure channel between camera and application. It also enables authentication of the video source. Video products are efficiently managed with the powerful IP VANDAL DOME CAMERA Camera Management tool, which is provided on the Installation CD which comes with each IP VANDAL DOME CAMERA camera.

## 1. Network connector

The IP VANDAL DOME CAMERA connects to the network via a standard network cable, and automatically detects the speed of the local network segment (10BaseT/100BaseTX Ethernet). This socket could also be used to power the IP VANDAL DOME CAMERA via Power over Ethernet (PoE). The camera auto-senses the correct power level when using a PoE (Class 2) switch, router or injector.

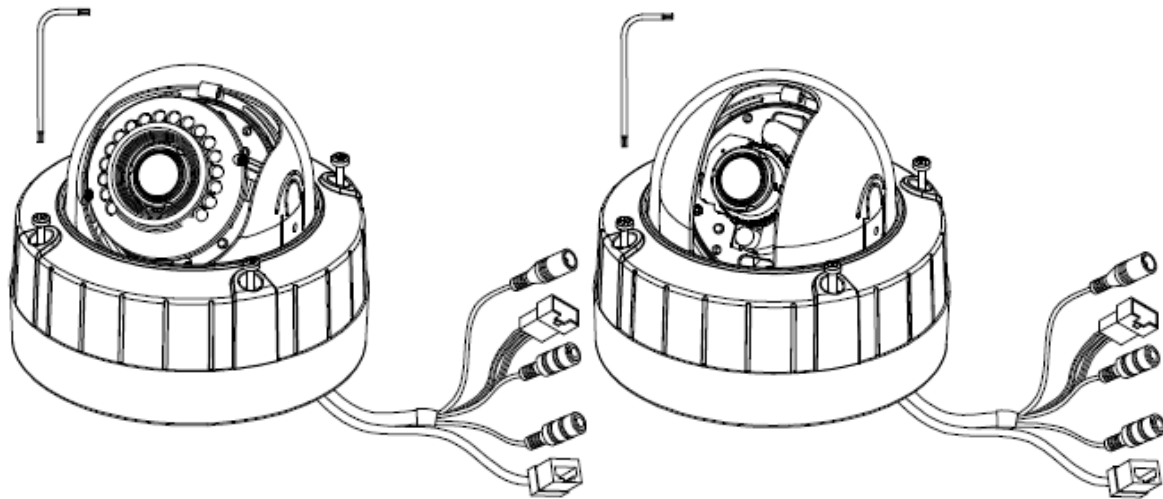
## 2. Reset Button

Press this button to restore the camera configuration to its factory default settings.

### 3.How to install

#### 1) Remove Dome Cover

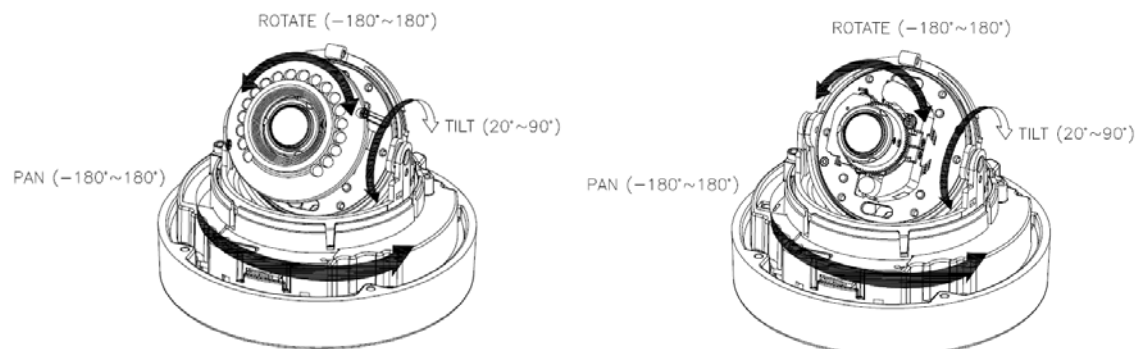
- Loosen four Trox(T20) screws by supplied L-key wrench and remove Dome cover



1) IR Ver.

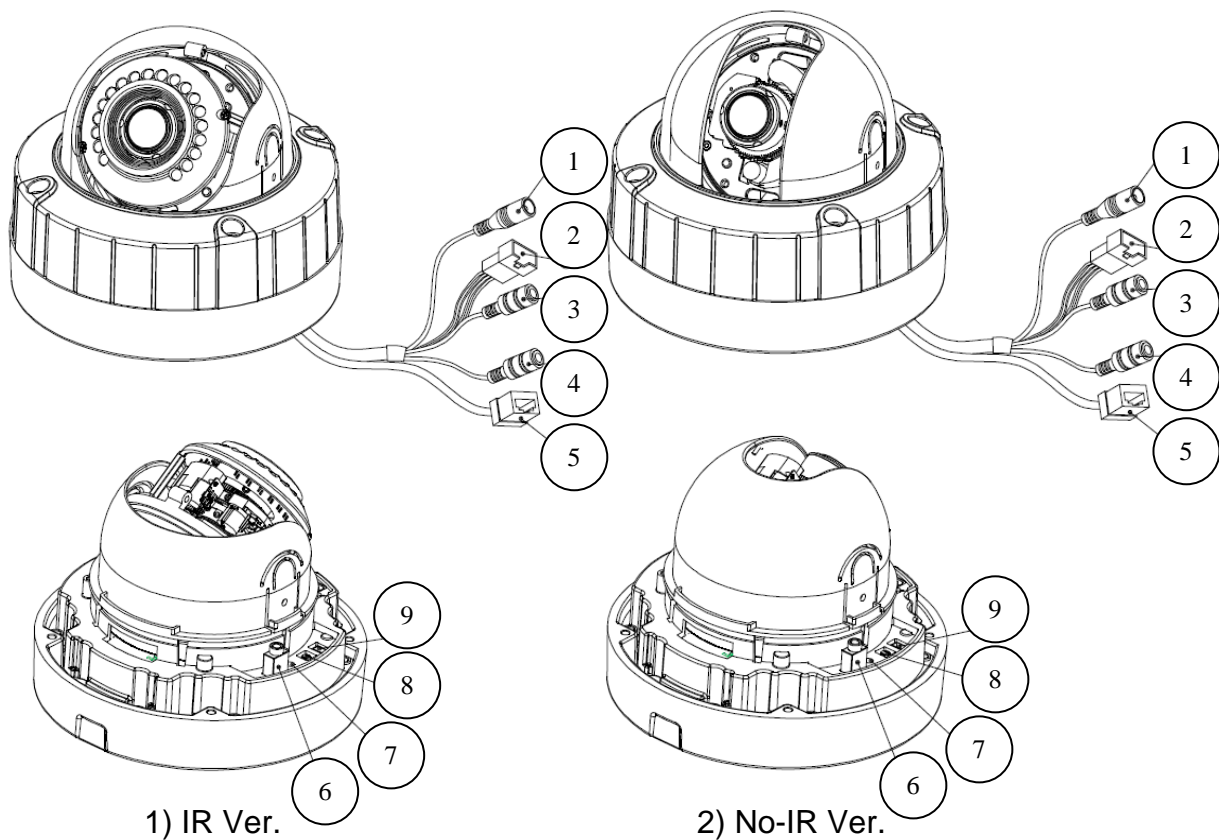
2) No-IR Ver.

#### 2) Control



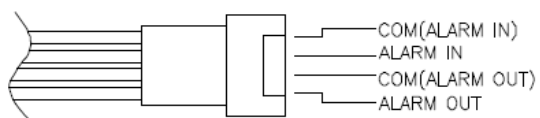
1) IR Ver.

2) No-IR Ver.



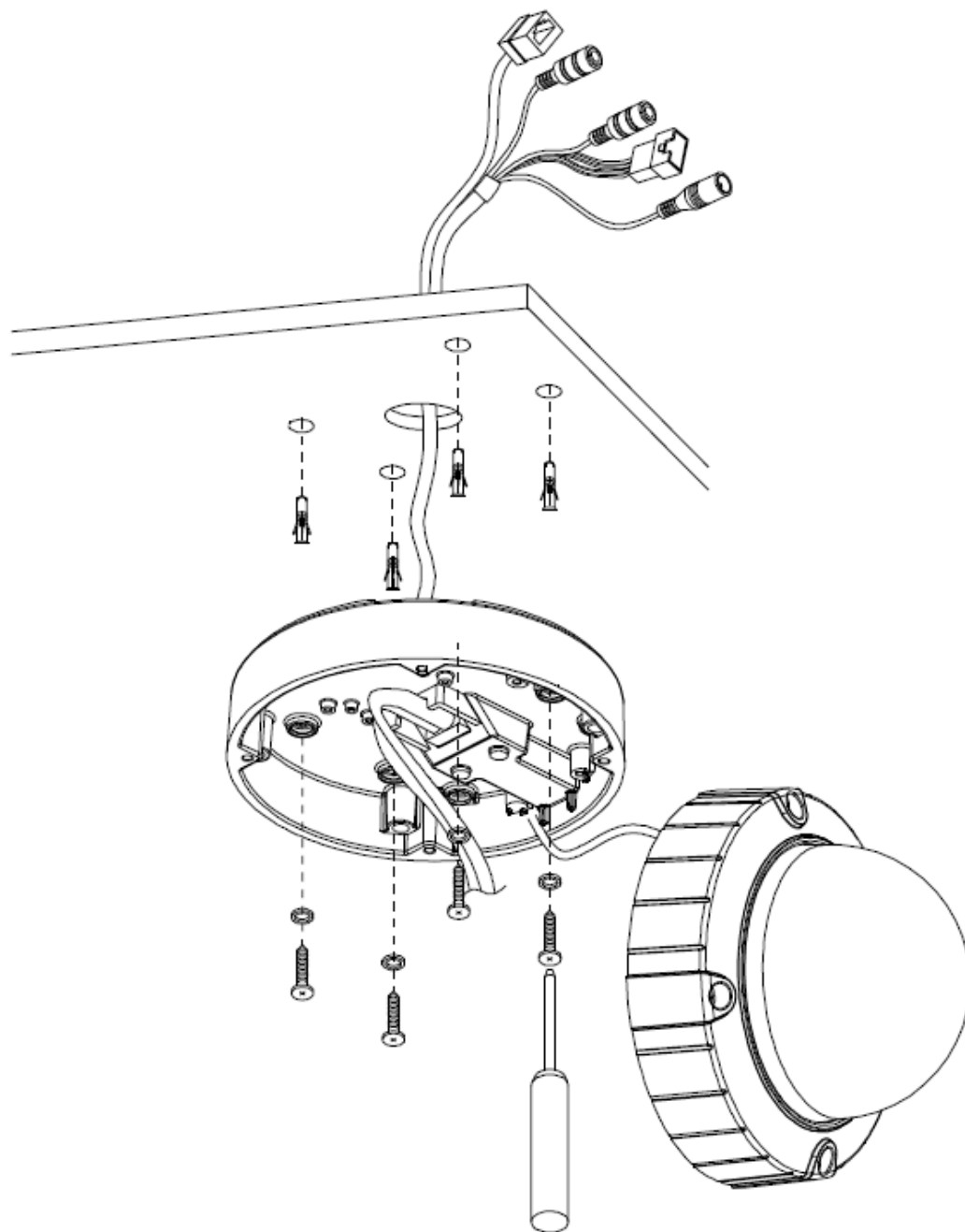
NO.	DESCRIPTION	NO.	DESCRIPTION
1	POWER(RED)	6	VIDEO OUT
2	ALARM IN/OUT	7	STATUS LED
3	AUDIO IN(BLACK)	8	CONTROL BUTTON
4	AUDIO OUT(WHITE)	9	HEATER CONNECTOR (OPTION)
5	NETWORK		

— ALARM IN/OUT PIN Assignment —

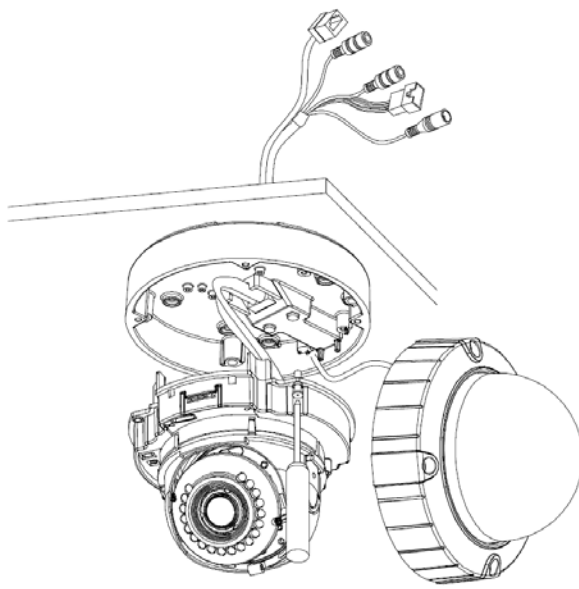


## Mounting to a ceiling / wall

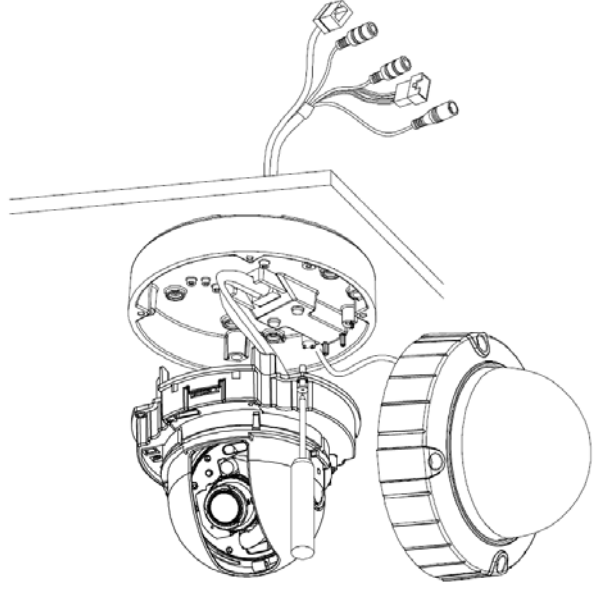
### 1) IN CEILING MOUNT



## 2) SURFACE MOUNT



1) IR Ver.



2) No-IR Ver.



## 2. Accessing the Camera

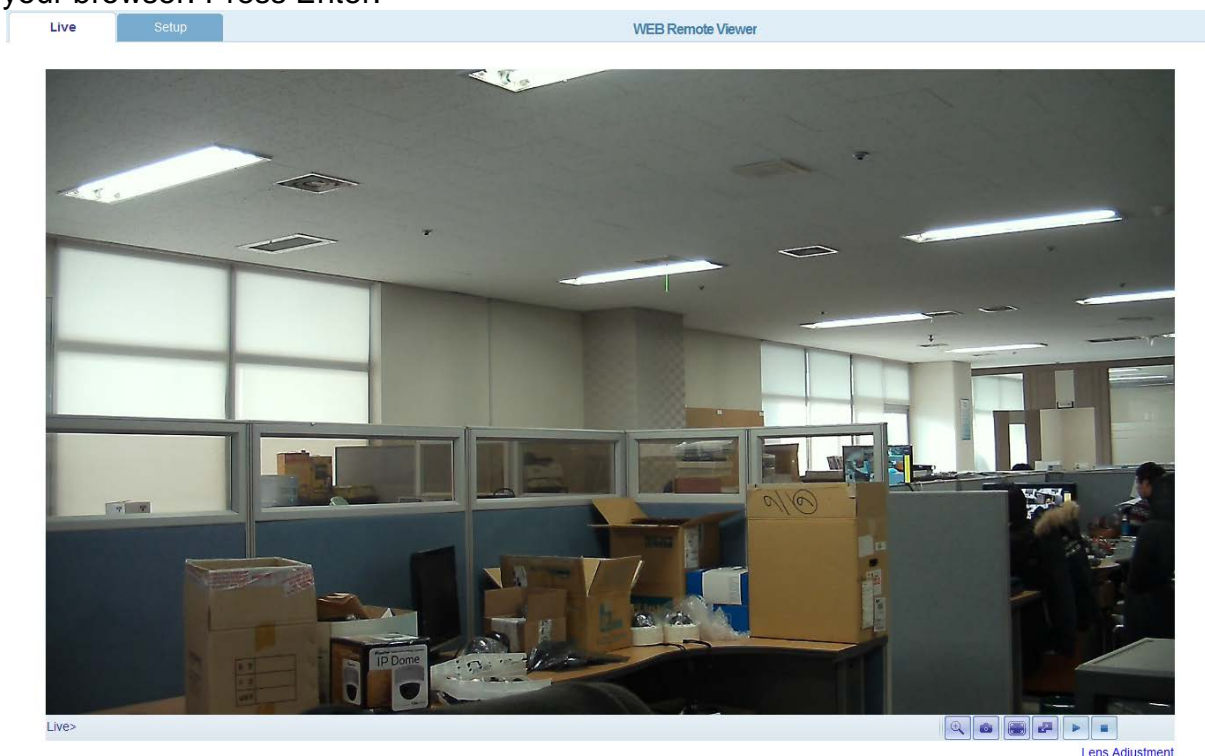
Follow the instructions in the IP VANDAL DOME CAMERA Installation Guide to install the camera.

The IP VANDAL DOME CAMERA could be accessed with most standard operating systems and browsers. The recommended browser is Internet Explorer for Windows with other operating systems.

### 2.1 Access from a browser

1. Start a browser (Internet Explorer)

2. Enter the IP address or host name of the camera in the Location/Address field of your browser. Press Enter.



3. Login dialog will appear when the camera is accessed for the first time.

4. The default user name is **ADMIN**, and password is **1234**.

5. The camera's Live View page is now displayed in your browser.

**Note:** The layout of the live view page in the camera may have been customized to meet specific requirements. Consequently, some of the examples and functions featured here may differ from those displayed on your own Live View page.

## 2.2 Accessing the camera from the Internet

Once installed, the camera is accessible on the local network (LAN). Configure the router/firewall to allow incoming data traffic to access the camera from the Internet. For security reasons this is usually done on a specific port. Please refer to the documentation for router/firewall for further instructions.

## 2.3 Adjusting the Image and Focus

To adjust the position of the lens:

1. Open the **Live View** page in your web browser.
  - Select the **Setup** tab, and open the **Installation** page.
  - Select the 'Video Format'.
2. Connect analog monitor to the VIDEO OUT (BNC) on the cable.
  - Control the FOCUS with monitor's image.
3. Check the image from the **Live View** page on your web browser.
  - Set 'Installation Mode' to 'OFF' to resume normal camera operation.

## 2.4 The Live View page



Digital Zoom



Snap Shot



Full Screen



Video Stream change: First stream ⇔ Second stream



Play: Click this button by manually to start the stream



Stop: Click this button by manually to stop streaming

*NOTE: It is possible that not all the buttons described below will be visible unless the Live View page has been customized to display them.*

## 2.5 Video stream types

### H.264 protocols and communication methods

- **RTP (Real-time Transport Protocol)** is a protocol that allows programs to manage the real-time transmission of multimedia data, via unicast or multicast.
- **RTSP (Real Time Streaming Protocol)** serves as a control protocol, to negotiate the type of transport protocol to use for the stream. RTSP is used by a viewing client to start a unicast session.
- **UDP (User Datagram Protocol)** is a communications protocol that offers limited service for exchanging data in a network which uses the Internet Protocol (IP). UDP is an alternative to the Transmission Control Protocol (TCP). The advantage of UDP is that, it is not required to deliver all data and may drop network packets when there is network congestion. This is suitable for live video, as there is no point in re-transmitting old information that will not be displayed anyway.
- **Unicasting** is communication between a single sender and a single receiver over a network. This means that the video stream goes independently to each user, and each user gets own stream. A benefit of unicasting is, in case one stream fails, it only affects one user.
- **Multicasting (Will be supported)** is bandwidth-conserving technology that reduces bandwidth usage by simultaneously delivering a single stream of information to multiple network recipients. This technology is used primarily on delimited networks (intranets), as each user needs an uninterrupted data flow and should not rely on network routers.

## 2.6 How to stream H.264

Deciding on the combination of protocols and methods to use depends on your viewing requirements, and on the properties of your network. Setting the preferred method(s) is done in webpage.

**RTP+RTSP** This method (actually RTP over UDP and RTSP over TCP) should be your first consideration for live video, especially when it is important to always have an up-to-date video stream, even if some images are lost due to network problems. This could be configured as multicast or unicast.

**RTP/RTSP/Multicasting (Will be supported)** provides the most efficient usage of bandwidth, especially when there are large numbers of clients viewing simultaneously. Note however, that a multicast broadcast could not pass a network router unless the router is configured to allow this. For example, It is impossible to multicast over the Internet.

**RTP/RTSP/Unicasting** should be used for video-on-demand broadcasting, so that there is no video traffic on the network until a client connects and requests the stream. However, as more and more unicast clients get connected, the traffic on the network will increase and may cause congestion. Although there is a maximum of 10 unicast viewers, note that all multicast users combined count as 1 unicast viewer.

### **RTP/RTSP**

This unicast method is RTP tunneled over RTSP. This could be used to exploit the fact that it is relatively simple to configure firewalls to allow RTSP traffic.

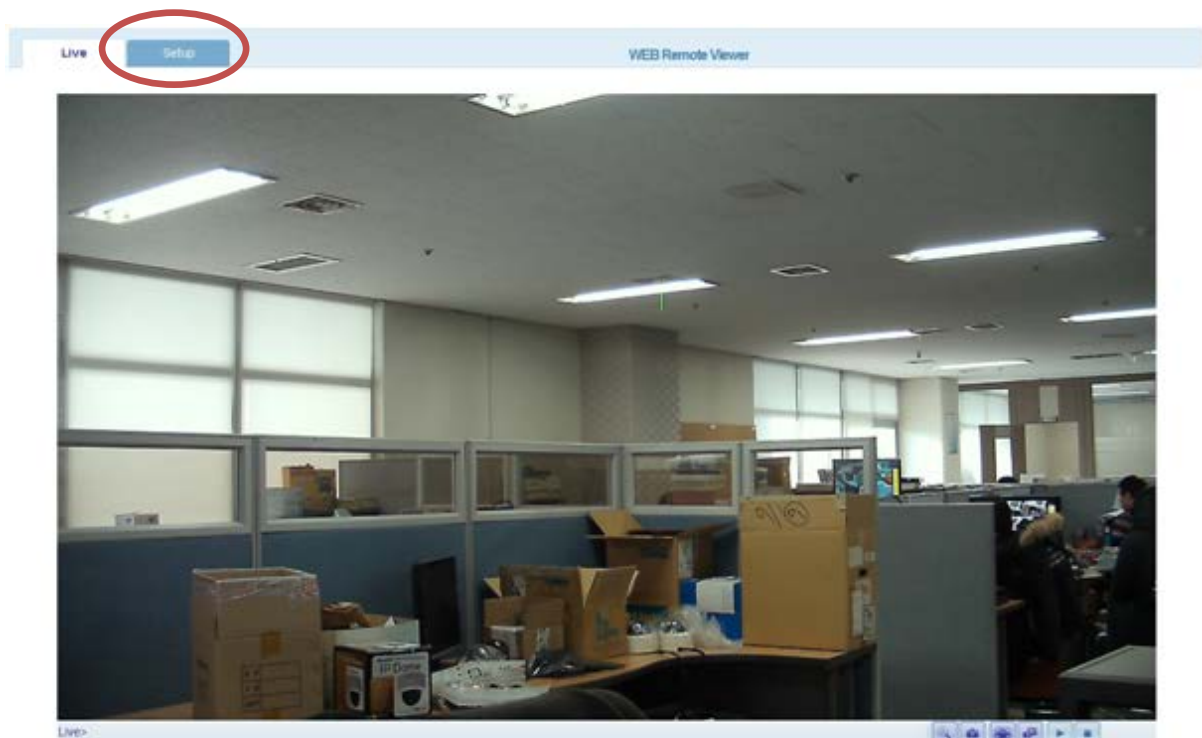
## 3. The Setup

The IP VANDAL DOME CAMERA is configured from the Setup link, which is available on the top left hand side in the web interface. This configuration could be done by:

- **Administrators**, who have unrestricted access to all settings under the Setup tab.

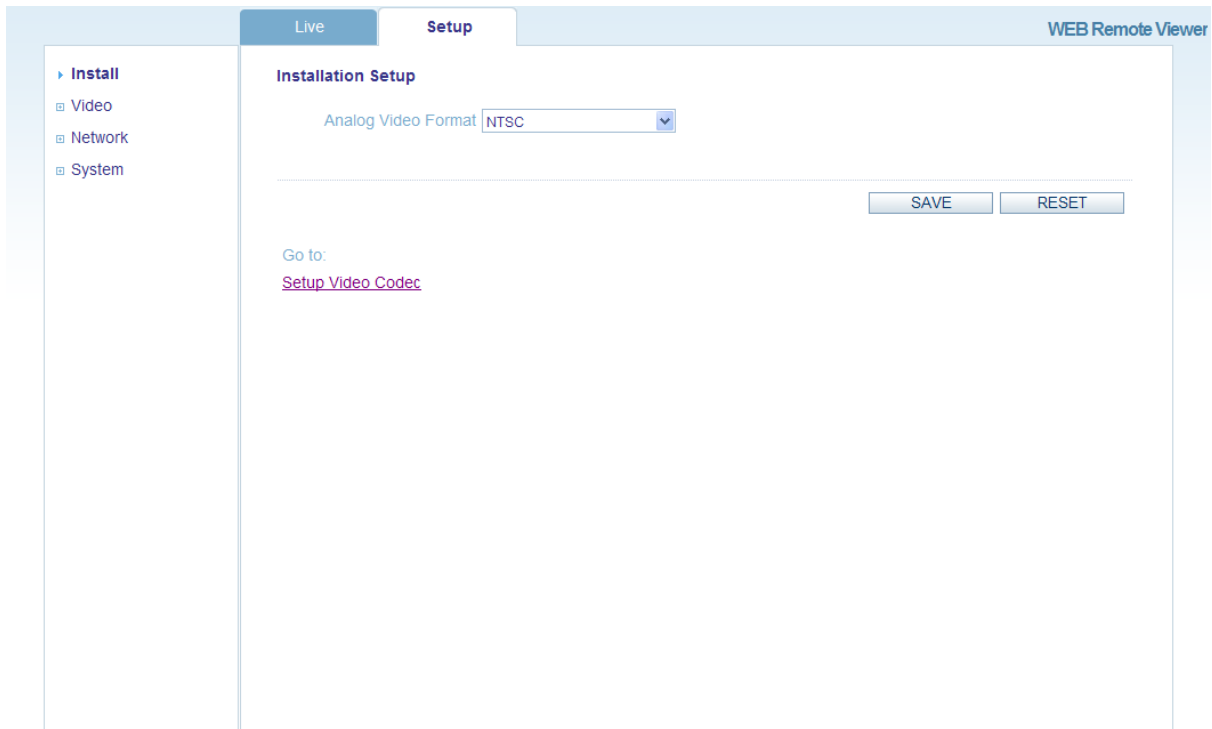
Accessing the Setup link from a browser

1. Start your web browser and enter the IP address or host name of the camera into the address bar.
2. The Live View page is now displayed. Click on the Setup tap.



## 4. Installation

The following descriptions show examples of some of the features available in the IP VANDAL DOME CAMERA.



### 4.1 Installation Setup

**Installation Mode** allows use of the analog BNC output from the camera to connect the camera

NTSC, PAL: Analog Output is enabled.

## 5. Camera and Image

The following descriptions show examples of some of the features available in the IP VANDAL DOME CAMERA.

### 5.1 Video Codec

These are the tools for adjusting the H.264 settings and controlling the video bit rate.

The screenshot shows the 'Setup' tab of the 'WEB Remote Viewer' interface. On the left is a navigation menu with 'Install', 'Video', 'Codec' (selected), 'Camera', 'Network', and 'System'. The main area is titled 'Video Codec' and contains settings for two streams: '1st' and '2nd'. For each stream, the 'Codec' is set to 'H.264'. The '1st' stream has a 'Size' of '1920x1080', 'Frame Rate(FPS)' of '30', 'GOP Size' of '30', 'Frames[1~60]' of '30', 'Bit-rate Control' of 'CBR', 'Average Bit-rate' of '10000 kbps', 'Output Bit-rate' of '10000 kbps', and 'Quality' of '—'. The '2nd' stream has a 'Size' of '640x352', 'Frame Rate(FPS)' of '30', 'GOP Size' of '30', 'Frames[1~60]' of '30', 'Bit-rate Control' of 'CBR', 'Average Bit-rate' of '3000 kbps [512kbps~10000kbps]', 'Output Bit-rate' of '3000 kbps [estimated value]', and 'Quality' of '40 [1~100]'. Below these settings are 'Anti-Flicker Mode' set to '60Hz' and 'Video Mirroring' set to 'NONE'. At the bottom right are 'SAVE' and 'RESET' buttons. At the bottom left, there is a 'Go to:' section with links for 'Setup Installation' and 'Setup Camera'.

Stream	1st	2nd
Codec	H.264	H.264
Size	1920x1080	640x352
Frame Rate(FPS)	30	30
GOP Size	30	30
Frames[1~60]	30	30
Bit-rate Control	CBR	CBR
Average Bit-rate	10000 kbps	3000 kbps [512kbps~10000kbps]
Output Bit-rate	10000 kbps	3000 kbps [estimated value]
Quality	—	40 [1~100]

Anti-Flicker Mode: 60Hz

Video Mirroring: NONE

Go to:  
[Setup Installation](#)  
[Setup Camera](#)

SAVE RESET

### H.264

This is a video compression standard that makes good use of bandwidth and which could provide high-quality video streams at less than 1 Mbit/s.

The H.264 standard provides scope for a large range of different coding tools for use by various applications in different situations, and the IP VANDAL DOME CAMERA provides certain subsets of these tools.

Using H.264, it is also possible to control the bit rate, which in turn allows the amount of bandwidth usage to be controlled. CBR (Constant Bit Rate) is used to achieve a specific bit rate by varying the quality of the H.264 stream. While using VBR (Variable Bit Rate), the quality of the video stream is kept as constant as possible, at the cost of a varying bit rate.

### Codec

#### H.264

## Size

Video output resolution. See the next page for the output resolution table.

## Image rate

1~30fps in normal mode (1~15fps for slow shutter mode)

*Note: If the slow shutter mode is turned on and the low light condition is met, the frame rate is automatically goes down. In this case, the frame is half of the normal mode.*

## Bit-rate control (CBR or VBR)

When using H.264 compression, if there is only limited bandwidth available, a constant bit rate(CBR) is recommended, although this may compromise image quality. Use a variable bit rate(VBR) for the best possibly image quality.

## Average Bit-rate (512Kbps ~ 10Mbps)

Recommended bit rate for D1: 800Kbps ~ 1Mbps

Recommended bit rate for 1.3M(720p): 3Mbps ~ 4Mbps

Recommended bit rate for 2.0M(1080p): 6Mbps ~ 8Mbps

## Anti-Flicker mode (Flicker less mode)

60Hz:NTSC

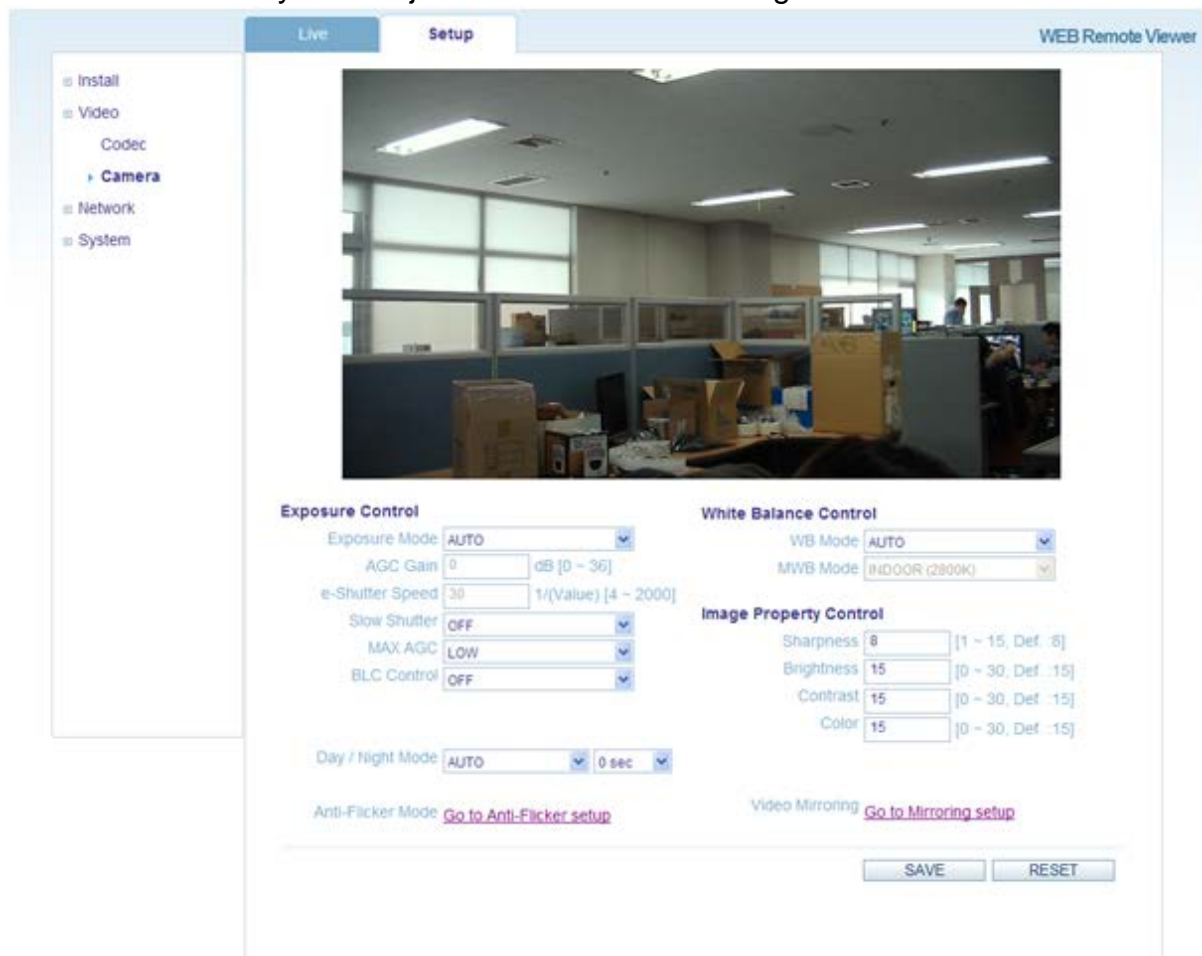
50Hz:PALor flicker-free mode(to use the camera in locations lit by fluorescent lighting).

## < Output resolution table for IP VANDAL DOME CAMERA>

First Stream	Second Stream							
1920x1080	704x480	640x480	640x360	640x352	352x288	352x240	320x240	-
1280x1024	704x480	640x480	640x360	352x288	352x240	320x240	-	-
1024x768	704x480	640x480	640x360	352x288	352x240	320x240	-	-
1280x720	1280x720	704x576	704x480	640x480	640x360	352x288	352x240	320x240
704x576	704x576	640x480	640x360	352x288	-	-	-	-
704x480	704x480	640x480	640x360	352x240	-	-	-	-
640x480	640x480	320x240	-	-	-	-	-	-
640x360	640x360	320x240	-	-	-	-	-	-
352x288	352x288	-	-	-	-	-	-	-
352x240	352x240	-	-	-	-	-	-	-
320x240	320x240	-	-	-	-	-	-	-

## 5.2 Camera

This section allows you to adjust various camera settings.



### 5.2.1 Exposure Control

#### Enable AE (Auto Exposure)

ON: Use this setting for automatic exposure control.

OFF: Use these settings to control camera exposure manually.

To compensate for poor lighting conditions, you can adjust the Color level, Brightness, Sharpness, Contrast and Exposure control.

**NOTE:** When AE is enabled, some of the submenus (AGC Gain, e-Shutter Speed) will be disabled.

#### Slow shutter mode

For low light conditions, turn on slow shutter mode.



**Max AGC Gain**

For low light conditions, adjust to a higher value, such as 30dB.

**BLC Control (Back Light Compensation)**

The BLC adjusts the exposure of scenes with strong backlight in the center-bottom of the image. When the image background is too bright, or the subject too dark, backlight compensation makes the subject appear clearer. The settings for low light behavior determine how the camera behaves at low light levels. These settings affect video image quality and how much noise is in the images.

## 5.2.2 Day & Night Control

**Day & Night Mode**

**Auto/Day/Night-** If set to Auto, the camera will automatically switch according to the current lighting conditions.

## 5.2.3 White Balance Control

**WB Mode**

ON:ATW (Automatic White balance)

OFF: MWB (Manual White balance)

The White balance adjustment setting is used to make the colors in the image appear consistent, compensating for the different colors present in different light sources.

The IP VANDAL DOME CAMERA camera can be set to automatically identify the light source and compensate for its color temperature. If necessary, the type of light source could be set manually..

## 5.2.4 Image Property Control

Modify the video signal parameters, such as: Brightness, Sharpness, Contrast, and Color.

Sharpness (Default: 8, Range: 1~15)

Brightness (Default: 15, Range: 0~30)

Contrast (Default: 15, Range: 0~30)

Color (Default: 15, Range: 0~30)

## 6. Audio

The screenshot shows the 'Audio Setup' page of the NCX WEB Remote Viewer. On the left is a navigation menu with options: Install, Video, Audio (selected), Live, SD Card, FTP, Event, Network, and System. The main area has two tabs: 'Live' and 'Setup' (active). The 'Audio Setup' section contains the following controls:

- Audio:** A dropdown menu currently set to 'DISABLE'.
- Codec:** A dropdown menu currently set to 'G.711 u-law 8KHz'.
- MIC Volume:** A slider control set to 50.
- Speaker Volume:** A slider control set to 50.

At the bottom right of the main area are two buttons: 'SAVE' and 'RESET'.

The NCX could transmit audio to other clients, using a connected external microphone and could play audio received from other clients via connected speakers. This section describes how to configure the basic audio settings for the NCX, such as setting the communication mode, adjusting the sound levels in the microphone and speakers connected to the camera.

**Note:** The speakers connected to the audio output must have a built-in amplifier, such as PC speakers.

### Enable Audio

ON/OFF

Check this to enable audio in the NCX.

### Codec

G.711 u-law

### Audio Input

Audio from a connected a line source could be connected to the Audio in connector of the NCX. If there are problems with the sound input being too low or high, adjust the **input gain** for the microphone connected to the NCX.

Select the desired audio **Encoding** format to G711.

## 7. Live

WEB Remote Viewer

Live Setup

Viewer Setup

LiveView Protocol: RTP over RTSP (TCP)

Buffering Time: 0 x 1/30sec [0~90: 0 ~ 3sec]

Viewer OSD Setup

Date: ON

Resolution: ON

Event State: ON

SAVE RESET

IP VANDAL DOME CAMERA could support 10 simultaneous users. In case of multicast, IP VANDAL DOME CAMERA could support unlimited number of users. If supported on the network, consider using multicasting, as the bandwidth consumption will be much lower.

### Viewer Setup

LiveView Protocol

RTP Unicast (UDP) / RTP Multicast (UDP) / RTP over RTSP (TCP)

Buffering Time (frame based)

Determines (0 ~ 90) x 1/30 sec (0 ~ 3sec)

### Viewer OSD Setup

**Date** : Determines whether the date is displayed.

**Resolution** : Determines whether the camera title is displayed.

**Event State** : Determines whether the event state is shown on display window.

## 8. FTP

### 8.1 FTP > Config

The screenshot shows the 'Setup' tab of the 'WEB Remote Viewer' interface. On the left is a navigation menu with options: Install, Video, Audio, Live, SD Card, FTP, Config (selected), Event, Periodical, Event, Network, and System. The main area is titled 'Server Configuration' and 'Client Configuration'. Under 'Server Configuration', there is a dropdown for 'FTP Server' set to 'Disable' with a note 'For Downloading Recorded Images'. Under 'Client Configuration', there are input fields for 'Server IP' (0.0.0.0), 'Port' (21, with a range [def:21, 1025-65535]), 'Username', and 'Password'. At the bottom right are 'SAVE' and 'RESET' buttons. At the bottom left, it says 'Go to : [Setup Codec](#)'.

#### Server Configuration

It is setting whether to use the provided FTP Server to download the configuration set on the **SD Card** menu remotely. When it is set as Enable, the FTP client could download the saved content without getting the SD Card.

#### Client Configuration

It is setting page to transmit the still shot to remote sites, using the FTP server. It could not be used when the Installation mode is on. Please set the first stream 1280x720 or 1280x720(wide) in Video-> Codec setting and second stream to MJPEG or None. Set the information for FTP transmission by inserting the IP address, Username and Password of the remote FTP Server.

## 8.2 FTP > Event

The screenshot shows the 'Setup' tab of the 'WEB Remote Viewer' interface. On the left is a navigation menu with options: Install, Video, Audio, Live, SD Card, FTP, Config, Event (selected), Periodical, Event, Network, and System. The main content area is titled 'Event FTP Sending'. It contains the following settings:

- FTP Sending:** Radio buttons for 'Enable' and 'Disable'. 'Disable' is selected.
- Directory:** A text input field containing 'event'.
- File Prefix:** A text input field containing 'ex) alm\_'.
- FTP Send Mapping:** Checkboxes for 'Alarm In' and 'Motion'. Both are unchecked.
- Effective Period:** Radio buttons for 'Always' and 'Schedule'. 'Always' is selected.
- Time Range:** Four dropdown menus showing '00', '00', '-', '00', '00'.

At the bottom right of the main area are 'SAVE' and 'RESET' buttons. Below the main area, there is a 'Go to :' label and a link 'Setup Codec'.

### Event FTP Sending

It is setting page to transmit the still shot to the FTP server at remote sites when event such as Alarm In and Motion detection happens. It could not be used when the Installation mode is on. Please set the first stream 1280x720 or 1280x720(wide) in Video-> Codec setting and second stream to MJPEG or None.

The overall menu structure is same as menu structure on SD Card->Event. Difference is that instead of saving the still shot on Alarm In or Motion event, it transmits to the Ftp server set on the Client Configuration of FTP->Config.

## 8.3 FTP > Periodical

Live Setup WEB Remote Viewer

**Periodical FTP Sending**

FTP sending ☐ Enable ☒ Disable

Directory

File Prefix

Interval

Effective Period ☒ Always ☐ Schedule

-

SAVE RESET

Go to : [Setup Codec](#)

### Periodical FTP Sending

It is setting page to transmit the still shots periodically to the FTP server of remote sites. Before using the FTP, turn off the Installation mode. Please set the first stream 1280x720 or 1280x720(wide) in Video-> Codec setting and second stream to MJPEG or None. The overall menu configuration is same as SD Card->Periodical. Difference is that instead of saving the still shot on Alarm In or Motion event, it transmits to the Ftp server set on the Client Configuration of FTP->Config.

## 9. Event

### 9.1 Event > Alarm Port

The screenshot shows the 'WEB Remote Viewer' interface. On the left is a sidebar menu with the following items: Install, Video, Audio, Live, SD Card, FTP, Event, Alarm Port (highlighted), Motion, Mapping, Network, and System. The main content area has two tabs: 'Live' and 'Setup'. The 'Setup' tab is active, showing the 'Alarm Port' configuration. It is divided into two sections: 'Alarm Input' and 'Alarm Output'. The 'Alarm Input' section has three fields: 'Operation' set to 'ENABLE', 'Type' set to 'N/O', and 'Text' set to 'ALARM 1'. The 'Alarm Output' section has three fields: 'Operation' set to 'ENABLE', 'Mode' set to 'SYNC', and 'Duration' set to '5 Sec'. At the bottom right of the main area are two buttons: 'SAVE' and 'RESET'.

**Alarm Input** - Used for connecting external alarm devices and triggering images for specific alarm-based events. The input is typically connected to a motion detector or any other external security device, and images could be uploaded whenever the detector is activated. Maximum 5VDC is allowed on the input.

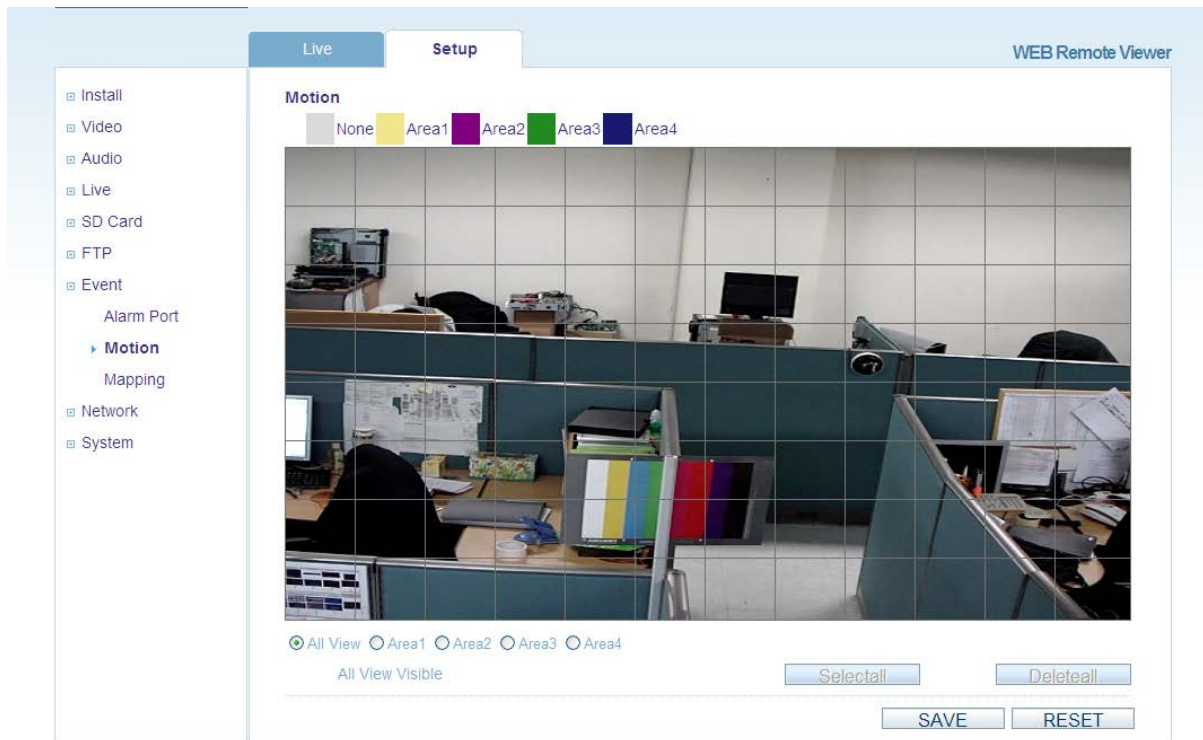
**Output** - This could drive a maximum load of 50VDC or 35VAC at 110mA directly or heavier loads by connecting additional relay circuitry. If the output is used with an external relay, a diode must be connected in parallel with the load for protection against any voltage transients.

**Duration -**

This parameter sets the minimum tampering period, that is, an alarm will not be triggered until this period has lapsed, even if the tampering conditions are otherwise met. This could help to prevent false alarms for known conditions that affect the image.

**Caution!** Connecting AC to the inputs/outputs will damage the unit.

## 9.2 Event > Motion



### Motion Detection

Motion detection is used to generate an alarm whenever movement either occurs or stops in the video image. A total of 10 windows could be configured.

#### Configuring Motion Detection

1. Click **Motion Detection** in the **Event Config** menu.
2. Click Add Window, and select if you want to add an Include or an Exclude window by checking the relevant box.
3. Enter a descriptive name for the window.
4. Adjust the size (drag the bottom right-hand corner) and position (click on the text at the top and drag to the desired position).
5. Adjust the Object size, History and Sensitivity profile sliders (see table below for details). Any detected motion within an active window is then indicated by red peaks in the **Activity** window (the active window has a red frame).
6. Click **Save**.

**Note:** Using the motion detection feature may decrease the camera's overall performance.



## 9.3 Event > Mapping

WEB Remote Viewer

Live Setup

**Event Mapping**

Alarm Sensor	Alarm Out	E-mail
Alarm In	<input type="checkbox"/>	<input type="checkbox"/>
Motion	<input type="checkbox"/>	<input type="checkbox"/>

SAVE RESET

Go to :  
[Setup E-mail](#)

It is possible to define conditions that would cause the camera to respond with certain actions. A triggered event happens as a result of a trigger, which could be motion detection or an external alarm input.

For example,

Alarm out events could be triggered by video motion detection or alarm in.

E-mail could be sent by video motion detection or alarm in.

# 10. Network

## 10.1 Network > IP Setup

The screenshot shows a web interface for network configuration. On the left is a sidebar with a tree view containing 'Install', 'Video', 'Network', 'IP Setup' (selected), and 'System'. The main area has two tabs: 'Live' and 'Setup' (selected). The 'Setup' tab displays the 'IP Address' configuration section. It has two radio buttons: 'Get IP address from DHCP server' (unselected) and 'Use the following IP address' (selected). Below the radio buttons are input fields for 'IP Address' (192.168.10.209), 'Subnet Mask' (255.255.255.0), 'Default Gateway' (192.168.10.1), '1st DNS' (222.112.8.34), and '2nd DNS' (168.126.63.1). A 'PING TEST' button is to the right of the IP Address field. At the bottom right of the main area are 'SAVE' and 'RESET' buttons. The top right corner of the interface says 'WEB Remote Viewer'.

### Network Settings

Click the **Setup > Network > IP Setup** to see the current network settings.

#### IP Address Configuration -

The IP VANDAL DOME CAMERA supports both IP version 4 and IP version 6 (**IPv6 will be supported in V3.00**). Both versions may be enabled simultaneously, and at least one version should be always enabled.

When using IPv4, the IP address could be set automatically via DHCP, or a static IP address could be set manually. If IPv6 is enabled, your camera receives an IP address according to the configuration in the network router.

There are also options for setting up notification of changes in the IP address, and for using the Internet Dynamic DNS Service.

**Notes:** • *To receive notification whenever the camera's IP address changes (via e.g. DHCP), configure the options for notification of IP address change. See Services below.* • *If your DHCP server could update a DNS server, you could access the IP VANDAL DOME CAMERA by a host name which is always the same, regardless of the IP address.*

### DNS Configuration

DNS (Domain Name Service) provides the translation of host names to IP addresses on your network.

- Primary DNS server**

Enter the IP address of the primary DNS server for your network.

- Secondary DNS server**

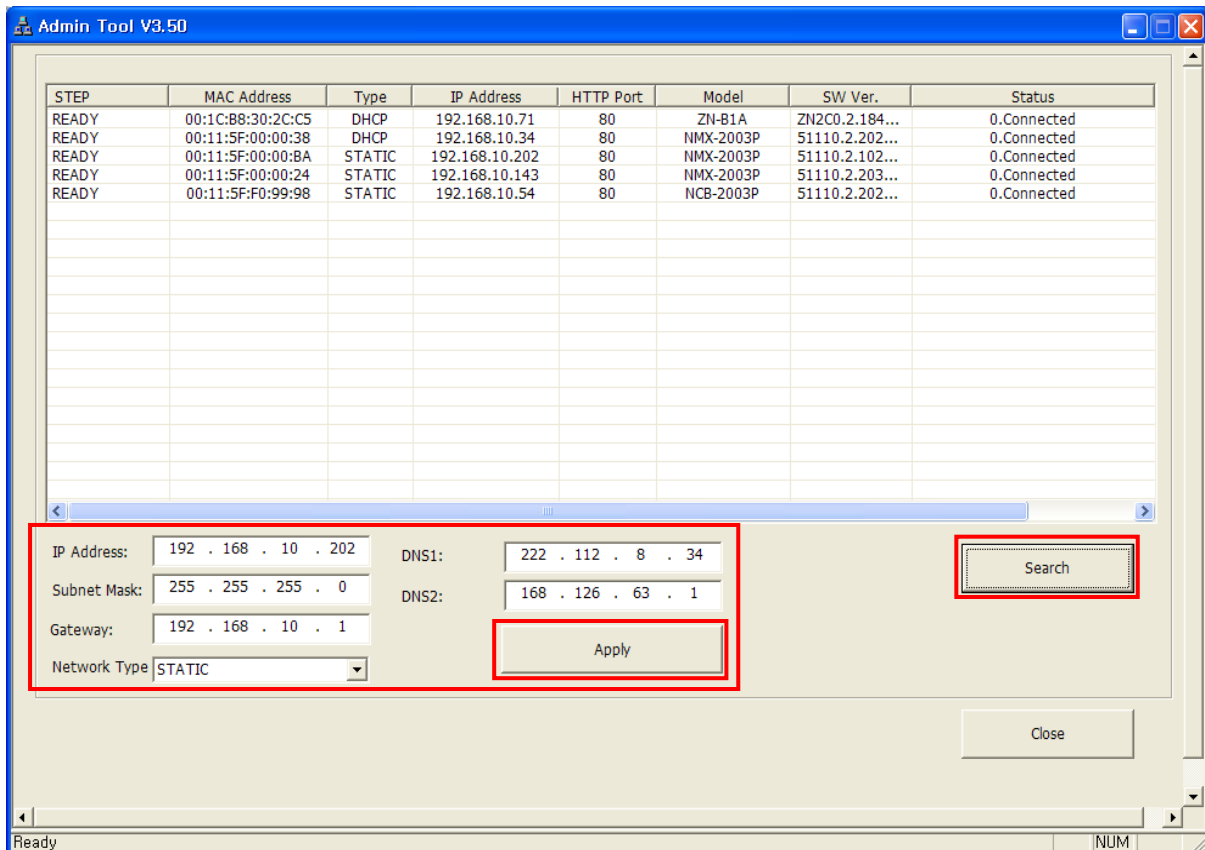
Enter the IP of the Secondary DNS, which is used if the Primary DNS server is unavailable.

## How to assign IP address

Default setting is set to “DHCP” and “UPnP” function is set to ON. If your network has DHCP server and UPnP function is enabled on your PC, you can find the network camera in “My network”.

If DHCP server is not available in your network, please assign IP address as following process.

- 1) Execute Admintool.exe and click “Search” button.
- 2) After the camera is listed in camera list, select the camera.
- 3) Type in the all network information.
- 4) Click “Apply” button, the setting will be showed in the list.
- 5) Click “Setting” Button to set network information to the camera.



When you double-click the camera within the list, the default web browser (Internet Explorer or compatible equivalent) will open and automatically connect to the camera.

## 10.2 Network > Service Port

Live Setup WEB Remote Viewer

Service Port

HTTP Port  [def:80, 1~65535]

RTSP Port  [def:554, 1~65535]

Port Forwarding

Port Forwarding

External IP

### Service Port

**HTTP port-** The default HTTP port number (**80**) could be changed to any port within the range 1-65535. This is useful for simple port mapping.

**RTSP port-** The RTSP protocol allows a connecting client to start an H.264 stream. Enter the RTSP port number to use. The default setting is 554.

**HTTPS port (HTTPS will be supported in V3.00) -** The default HTTPS port number (**443**) could be changed to any port within the range 1024-65535. HTTPS is used to provide encrypted web browsing.

**RTP port range -** These settings are the IP address, port number, and Time-To-Live value to use for the video stream(s) in multicast H.264 format. Only certain IP addresses and port numbers should be used for multicast streams.

**Note) After changing the default port to any other ports, the user can forget the ports number. In this case, please use the “ADMIN Tool” to search and connect automatically.**

## 10.3 Network > E-mail

The screenshot shows a web interface for configuring email settings. On the left is a sidebar menu with options: Install, Video, Audio, Live, SD Card, FTP, Event, Network (expanded), IP Setup, Service Port, RTP, **E-mail** (selected), DDNS, UPnP, and System. The main area has two tabs: 'Live' and 'Setup' (active). The 'Setup' tab contains the 'E-mail Setup' section. It includes fields for Notification (OFF), Frequency (5 Min), Server, Port (25), Security (OFF), User, Password, and From. At the bottom right are 'SAVE' and 'RESET' buttons. Below these buttons, a 'Go to :' section contains two links: 'Setup TO Address & Notification Enable' and 'Setup Event Mapping'. The top right corner of the interface says 'WEB Remote Viewer'.

Live Setup WEB Remote Viewer

**E-mail Setup**

Notification OFF

Frequency 5 Min

Server

Port 25

Security OFF

User

Password

From

SAVE RESET

Go to :  
[Setup TO Address & Notification Enable](#)  
[Setup Event Mapping](#)

Enter the host names or addresses for your mail servers in the fields provided, to enable the sending of event and error email messages from the camera to predefined addresses via SMTP.

# 11. System

## 11.1 System > User

The screenshot shows the 'User Management' interface within the 'Setup' tab. The interface includes a sidebar with navigation options: Install, Video, Audio, Live, SD Card, FTP, Event, Network, System, and User. The 'User' option is selected, showing sub-options: Date & Time, Maintenance, and Information. The main area displays a table for user management with columns: User ID, Password, Group, E-Mail, Notification, and Del/Add. The table contains one row for the 'ADMIN' user with a masked password and the 'Admin' group. Below the table are 'SAVE' and 'RESET' buttons. A 'Go to:' link points to 'Setup E-mail'. The top right corner shows 'WEB Remote Viewer'.

User ID	Password	Group	E-Mail	Notification	Del/Add
ADMIN	••••	Admin		<input type="checkbox"/>	
		Admin		<input type="checkbox"/>	Add

SAVE RESET

Go to : [Setup E-mail](#)

Access the camera and the **Configure Root Password** dialog appears.

Enter the User name: **ADMIN** and password is 1234.

To changed password or add a user click SETUP > SYSTEM > USER. Fill the User ID, Password and E-mail server. Select Group. Then press ADD button and click SAVE.

**Note:** The default administrator user name **ADMIN** is permanent and could not be deleted or altered.

## 11.2 System > Date & Time

WEB Remote Viewer

Live Setup

**Date/Time Setup**

Current Server Time 2010/04/12 06:03:29 PM

Date format YYYY/MM/DD

Time format AM / PM

☒ Synchronize with NTP server

NTP server POOLNTP.ORG

☐ User set manually

Local Time 2010 / 04 / 12 18 : 03 : 27

Time Zone GMT+09:00 Asia/Seoul

D.S.T OFF

SAVE RESET

**Date & Time Format** - specify the formats for the date and time (12h or 24h) displayed in the Live View video streams. Use the predefined formats or use your own custom date and time formats.

**Network Time Server** - the camera will obtain the time from an NTP server every 60 minutes. Specify the **NTP server**'s IP address or host name.

**Time zone setup** – Select your time zone from the drop-down list.

**D.S.T (Daylight Saving Time)** - ON/OFF



## 11.3 System > Maintenance

The screenshot shows the 'Maintenance' section of the 'Setup' tab in the 'WEB Remote Viewer'. On the left is a navigation menu with options: Install, Video, Network, System, Maintenance (selected), and Information. The main area contains the following fields and buttons:

- System Name:** A text input field containing 'NetCamera'.
- System Reboot:** A button labeled 'OK'.
- Factory Default:** A button labeled 'OK'.
- Firmware Updates:** A text input field, a button labeled '찾아보기...' (Find), and a button labeled 'OK'.

At the bottom right of the main area are two buttons: 'SAVE' and 'RESET'.

### System Name

Choose a system name to identify the camera when using e-mail notifications.

### System Reboot

Reboot the camera.

### Factory Default

To reset the camera back to the original factory default settings.

### Firmware Update

From time to time, ITX will release firmware updated for the IP VANDAL DOME CAMERA camera, which will contain feature additions and other improvements. Always read the upgrade instructions and release notes that accompany each new firmware release, before updating the firmware.

*NOTE: Preconfigured and customized settings should be saved before the firmware is upgraded.*

## Firmware Update Procedure

1. Save the firmware file to your computer.
2. Go to Setup > System > Maintenance within the camera web browser setup.
3. In the Firmware Update section, browse to the desired firmware file on your computer. Click OK.

*NOTE: Do not disconnect power to the unit during the upgrade. The unit will restart automatically after the upgrade has completed. (1~5 minutes)*

4. If you suspect the firmware upgrade for the camera has failed, always wait at least 5-10 minutes before restarting the upgrade process.
5. ITX reserves the right to charge for any camera repair which can be attributed to faulty upgrading by the user. Always read the upgrade instructions and firmware release notes before updating the firmware.

## System Reset (Factory Default Reset)

There are two ways to reset the camera back to factory default. holding down about 10-20 sec the reset button on the Network cable

*Using the web browser:*

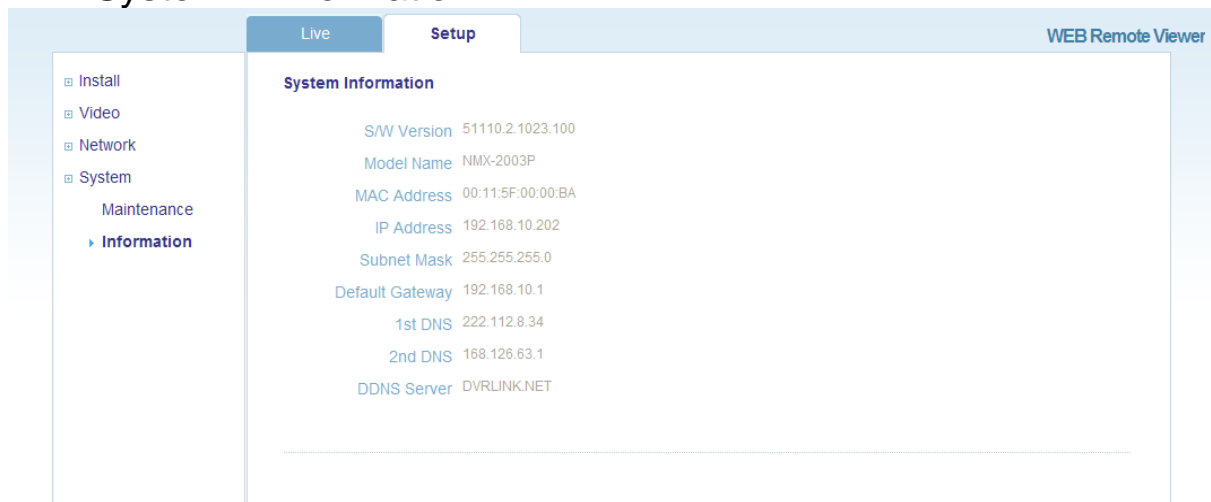
1. Go to SETUP > System > Maintenance.
2. Click Factory Default Button and wait 1 minute for camera to reboot.

*Using the Reset Button:*

1. Holding down 10-20 sec the reset button on the Network cable.
2. Release your finger on the reset button, waiting about 1 minute for camera reboot

*NOTE: The unit will now have the default IP address from a DHCP server. Use the 'ADMIN Tool' to discover and connect to the camera.*

## 11.4 System > Information



**Underwriters Laboratories Inc. ("UL") has not tested the performance or reliability of the security or signaling aspects of this product.**

**UL has only tested for fire, shock or casualty hazards as outlined in UL's Standard(s) for Safety, UL60065.**

**UL Certification does not cover the performance or reliability of the security or signaling aspects of this product.**

**UL MAKES NO REPRESENTATIONS, WARRANTIES OR CERTIFICATIONS WHATSOEVER REGARDING**

**THE PERFORMANCE OR RELIABILITY OF ANY SECURITY OR SIGNALING RELATED FUNCTIONS OF THIS PRODUCT.**

## 12.DIMENSION (mm)

